

APPENDIX II: POST-TEST SURVEY INSTRUMENT

PRIMARY DRIVER

A. TEST DRIVING PROCESS – PRIMARY DRIVER

1. Which *ADVANCE* vehicle did you drive (make): _____ male
2. Date when you completed your test period: _____ 3. Your gender female
4. Did the *ADVANCE* vehicle itself (not the route guidance system) meet your travel needs during the test driving period?
 yes no If “no” check all reasons below:
 too large too complex too small inadequate “features”
 reluctant to use for “usual” trips annoyed by *ADVANCE* system
 6 county driving limit too restrictive other _____
5. About how much did you drive the *ADVANCE* test car? About _____ trips per day

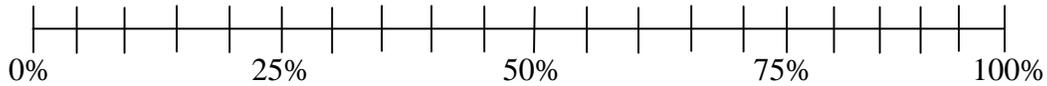
6. While you were using the <i>ADVANCE</i> vehicle, how did your travel change?	Greatly Decreased		Didn't Change		Greatly Increase
The number of auto trips you made	1	2	3	4	5
The length of your auto trips	1	2	3	4	5
The number of auto trips to new destinations	1	2	3	4	5

7. Please tell us your feelings about various aspects of the test driving experience.	Strongly Disagree.....				Strongly Agree
The test driving period gave you enough time to test the <i>ADVANCE</i> system	1	2	3	4	5
The training provided was sufficient	1	2	3	4	5
<i>ADVANCE</i> personnel were helpful	1	2	3	4	5
The user's manual and visor card provided useful answers to your questions [or, <input type="checkbox"/> didn't use]	1	2	3	4	5
Calls to the Traffic Information Center provided useful answers to questions [or, <input type="checkbox"/> didn't call]	1	2	3	4	5
Questionnaires were clear and appropriate	1	2	3	4	5
When you first drove the <i>ADVANCE</i> car, you felt confident using the <i>ADVANCE</i> system	1	2	3	4	5
When you completed your test driving, you felt confident using the <i>ADVANCE</i> system	1	2	3	4	5
At the end of the test period, you wanted to continue using the <i>ADVANCE</i> system	1	2	3	4	5

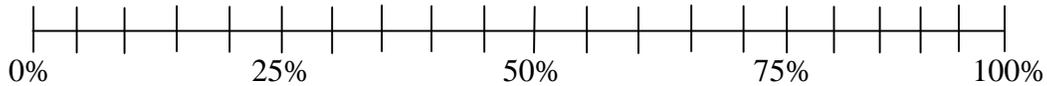
B. PERFORMANCE OF THE *ADVANCE* ROUTE GUIDANCE UNIT – PRIMARY DRIVER

8. Mark the lines below to indicate the percent of the trips you drove in the test vehicle during which you used the *ADVANCE* system for:

a. planning routes - entering destinations and following route guidance instructions:



b. map tracking - following the position of your vehicle on the map display:



9. Your overall impression of the *ADVANCE* system is...

Very Unfavorable	.....	Very Favorable
1	2 3 4	5

10. Please rate the performance of the *ADVANCE* features

	Did not Use this	Very Poor	.....	.....	Very Good	
	0	1	2	3	4	5
Speed of system start-up	0	1	2	3	4	5
Accuracy of start-up position	0	1	2	3	4	5
Display readability	0	1	2	3	4	5
Display understandability	0	1	2	3	4	5
Usefulness of map display	0	1	2	3	4	5
Ease of destination entry	0	1	2	3	4	5
Ease of destination saving	0	1	2	3	4	5
Route planning time	0	1	2	3	4	5
Quality of planned routes	0	1	2	3	4	5
Route preview feature	0	1	2	3	4	5
Route guidance arrows	0	1	2	3	4	5
Route guidance voice instructions	0	1	2	3	4	5
En-route route replanning	0	1	2	3	4	5
Overall route planning performance	0	1	2	3	4	5

10. Please rate the <u>performance</u> of the <i>ADVANCE</i> features	Did not Use this	Very Poor	.....	.....	.....	Very Good
Touch screen controls	0	1	2	3	4	5
Button controls	0	1	2	3	4	5
Accuracy of tracking vehicle route	0	1	2	3	4	5
Accuracy of destination finding	0	1	2	3	4	5
Overall reliability of <i>ADVANCE</i> unit	0	5				

11. How important is each of the following <i>ADVANCE</i> features in your travel?	Not at all Important	.....	.....	.....	Very Important
Speed of system start-up	1	2	3	4	5
Accuracy of start-up position	1	2	3	4	5
Display readability	1	2	3	4	5
Display understandability	1	2	3	4	5
Usefulness of map display	1	2	3	4	5
Ease of destination entry	1	2	3	4	5
Ease of destination saving	1	2	3	4	5
Route planning time	1	2	3	4	5
Quality of planned routes	1	2	3	4	5
Route preview feature	1	2	3	4	5
Route guidance arrows	1	2	3	4	5
Route guidance voice instructions	1	2	3	4	5
En-route route replanning	1	2	3	4	5
Overall route planning performance	1	2	3	4	5
Touch screen controls	1	2	3	4	5
Button controls	1	2	3	4	5
Accuracy of tracking vehicle route	1	2	3	4	5
Accuracy of destination finding	1	2	3	4	5
Overall reliability of <i>ADVANCE</i> unit					

12. Compared with your own route planning, routes planned by the <i>ADVANCE</i> system were	Strongly Disagree.....				Strongly Agree
Direct, almost always heading to your destination	1	2	3	4	5
Fast, providing short travel times	1	2	3	4	5
Short, not requiring you to travel excess distance	1	2	3	4	5
Simple, not requiring complex maneuvers	1	2	3	4	5
Logical, sensible routes anyone would follow	1	2	3	4	5

13. On what percent of the trips for which you used the <i>ADVANCE</i> system did it produce the following effects?	0%	25%	50%	75%	100%
Helped you find your destination	1	2	3	4	5
Saved you travel time	1	2	3	4	5
Helped you avoid congestion	1	2	3	4	5
Distracted you from your driving task	1	2	3	4	5
Caused you to be annoyed or frustrated	1	2	3	4	5
Caused you to shift routes	1	2	3	4	5
Reduced your anxiety	1	2	3	4	5
Increased your anxiety	1	2	3	4	5
Made your trip more pleasant	1	2	3	4	5

C. HOW USING THE ROUTE GUIDANCE SYSTEM INFLUENCE ON YOUR DRIVING

To support the design of future navigation and route guidance systems, we want to understand how the presence and use of the *ADVANCE* system influenced your driving. First, we want to know a bit more about you.

14. Are you predominantly: left-handed right-handed

15. Do you experience difficulty seeing any colors? yes no

16. Do you have trouble seeing the differences between any colors? yes no

If you answered “yes” to question 16, which colors? _____

17. How often did these events occur while you drove the *ADVANCE* car? When they occurred, how serious do you feel the safety risk was?

	HOW OFTEN					SAFETY RISK				
	Never	sometimes			always	Not at all Serious.....				Very Serious
<i>ADVANCE</i> interfered with response to an emergency (avoiding obstacle, hearing emergency vehicle)	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> too complex to use in heavy traffic	1	2	3	4	5	1	2	3	4	5
Drifted out of lane while using <i>ADVANCE</i> system	1	2	3	4	5	1	2	3	4	5
Stopped vehicle to use <i>ADVANCE</i> feature intended for use in motion	1	2	3	4	5	1	2	3	4	5
Unable to select <i>ADVANCE</i> feature or mode quickly enough to use it	1	2	3	4	5	1	2	3	4	5
Experienced difficulty or stress switching, attention between events outside vehicle and using <i>ADVANCE</i> system	1	2	3	4	5	1	2	3	4	5
Traffic conditions prevented initiating <i>ADVANCE</i> function when needed	1	2	3	4	5	1	2	3	4	5
Pressed wrong control on <i>ADVANCE</i> unit	1	2	3	4	5	1	2	3	4	5
Stopped vehicle to correct <i>ADVANCE</i> control error	1	2	3	4	5	1	2	3	4	5
Arrow display conflicted with voice guidance	1	2	3	4	5	1	2	3	4	5
Could not hear or understand guidance due to traffic or in-vehicle noise	1	2	3	4	5	1	2	3	4	5
Drove more slowly to Follow <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5

17. How often did these events occur while you drove the *ADVANCE* car? When they occurred, how serious do you feel the safety risk was?

	HOW OFTEN					SAFETY RISK				
	Never	sometimes	always			Not at all Serious.....				Very Serious
Navigating with <i>ADVANCE</i> guidance interfered with driving more than would have using paper map	1	2	3	4	5	1	2	3	4	5
Missed turns commanded by <i>ADVANCE</i> guidance due to traffic	1	2	3	4	5	1	2	3	4	5
Missed turns commanded by <i>ADVANCE</i> guidance due to insufficient warning	1	2	3	4	5	1	2	3	4	5
Got lost while following <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5
Felt disoriented following <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> guidance led in the wrong direction at start of trip	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> did not provide route guidance in test area	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> commanded illegal or impossible action	1	2	3	4	5	1	2	3	4	5
Some important geographic features were not shown by the <i>ADVANCE</i> display	1	2	3	4	5	1	2	3	4	5
Could not see street names or geographic features on <i>ADVANCE</i> display	1	2	3	4	5	1	2	3	4	5
Need to monitor traffic conditions interfered with seeing moving map display	1	2	3	4	5	1	2	3	4	5
Needed to lean over to see map display	1	2	3	4	5	1	2	3	4	5
Display of compass directions (north, east, south, west) was confusing	1	2	3	4	5	1	2	3	4	5

17. How often did these events occur while you drove the <i>ADVANCE</i> car? When they occurred, how serious do you feel the safety risk was?	HOW OFTEN					SAFETY RISK				
	Never	sometimes	always			Not at all Serious.....				Very Serious
While driving, could not see streets or other features on map	1	2	3	4	5	1	2	3	4	5
Glare interfered with seeing display	1	2	3	4	5	1	2	3	4	5

D. FEATURES OF FUTURE ROUTE GUIDANCE SYSTEMS – PRIMARY DRIVER

In the future it may be possible to acquire in-vehicle route guidance systems based on *ADVANCE*. Please help us plan such future systems by rating the value to you of several possible features.

18. In a future in-vehicle navigation system, how valuable would each of these features be to you?	Not at all Valuable.....					Highly Valuable				
	1	2	3	4	5					
Map display showing current vehicle position	1	2	3	4	5					
Route guidance using only static information (i.e., electronic road map)	1	2	3	4	5					
Route guidance arrow display	1	2	3	4	5					
Route guidance voice messages	1	2	3	4	5					
Route guidance based on current traffic congestion information	1	2	3	4	5					
Map display of location and intensity of current traffic congestion	1	2	3	4	5					
Destination selection by establishment name or type (e.g., electronic Yellow Pages™)	1	2	3	4	5					
Selection of nearest destination of a particular type (e.g., gas station)	1	2	3	4	5					
Push-button emergency help service which automatically reports vehicle location and nature of problem (e.g., accident, breakdown, etc.)	1	2	3	4	5					
National map coverage for intercity and multi-city navigation	1	2	3	4	5					

18. In a future in-vehicle navigation system, how valuable would each of these features be to you?	Not at all Valuable.....				.....	Highly Valuable
Ability to set your own route planning criteria (fastest, cheapest, no expressways, etc.)	1	2	3	4	5	
Ability to plan multi-stop trips (e.g., to store, dentist, restaurant, then home)	1	2	3	4	5	
Integrated car theft alarm which tracks vehicle	1	2	3	4	5	
Display located closer to driver	1	2	3	4	5	

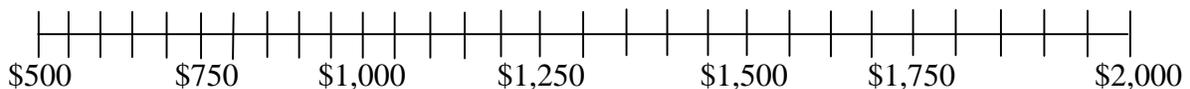
E. PREDICTING THE FUTURE – PRIMARY DRIVER

Please help us predict how drivers like you may respond to future in-vehicle systems, which help them find destinations and avoid congestion.

19. If a route guidance system with the features you found most valuable in Section D were in your car, would you expect it to	Strongly Disagree.....				.....	Strongly Agree
Save you time on most trips?	1	2	3	4	5	
Help you avoid traffic congestion?	1	2	3	4	5	
Help you avoid getting lost?	1	2	3	4	5	
Help you find new destinations?	1	2	3	4	5	
Reduce your anxiety while driving?	1	2	3	4	5	
Not distract you from your driving task?	1	2	3	4	5	

Finally, we would like your help in estimating the value to drivers like you of future in-vehicle navigation and route guidance systems with different features.

20. It has been estimated that it would cost between \$500 and \$2,000 for a basic in-vehicle navigation system which is highly reliable, easy to use, and which provides route planning based on historic travel conditions, a map display, and displayed and verbal route directions. Using the range of \$500-2,000 as a guideline, indicate on the number line below the maximum amount you would be willing to pay for this basic system installed in the next new vehicle you purchase or lease.



21. Next, please indicate how likely you would be to add the additional features described below at the costs indicated for these features.	Very Unlikely.....					.....	Very Likely
Current traffic congestion and travel time information: Route planning based on current traffic conditions along with rerouting instructions to help you avoid unexpected congestion; there would be a \$20 monthly subscription fee for access to the current traffic information	1	2	3	4	5		
Current traffic congestion and travel time information: Route planning as described above but with a monthly fee of \$10	1	2	3	4	5		
Theft protection: Vehicle theft alarm and tracking if the vehicle is stolen; cost of \$10 per month	1	2	3	4	5		
Emergency road service: Push-button emergency road service which automatically reports location of your vehicle and nature of your need; monthly subscription fee of \$10	1	2	3	4	5		
Combined package: Current traffic congestion and travel time information, theft protection and emergency road service; \$30 per month fee.	1	2	3	4	5		

22. How likely would these factors be to discourage you from buying a future route guidance system with the features you value most?	Very unlikely to discourage .....					.....	Very likely to discourag
Required maintenance cost of \$50 per year	1	2	3	4	5		
Complexity of use like that of the <i>ADVANCE</i> system	1	2	3	4	5		
Reliability like that of the <i>ADVANCE</i> system	1	2	3	4	5		
Appearance of unit installed in your vehicle like that of the <i>ADVANCE</i> system	1	2	3	4	5		
Potential problems due to additional electrical load	1	2	3	4	5		
Potential increased risk of vehicle theft and vandalism	1	2	3	4	5		
Driver distraction while using route guidance system	1	2	3	4	5		

Please ask the alternate driver of your *ADVANCE* vehicle (if there is an alternate driver in your household) to complete the next portion of the questionnaire.

Please complete this survey within 3 days of your return of the *ADVANCE* vehicle. Return the completed survey to us in the supplied prepaid mailing envelope.

ALTERNATE DRIVER

A. TEST DRIVING PROCESS – ALTERNATE DRIVER

1. Did the *ADVANCE* vehicle itself (not the route guidance system) meet your travel needs during the test driving period?

- yes no If “no” check all reasons below:
 too large too complex too small inadequate “features”
 reluctant to use for “usual” trips annoyed by *ADVANCE* system
 6 county driving limit too restrictive other _____

2. About how much did you drive the *ADVANCE* test car? About _____ trips per day

3. While you were using the <i>ADVANCE</i> vehicle, how did your travel change?	Greatly Decreased	1	2	3	4	5	Greatly Increase
The number of auto trips you made		1	2	3	4	5	
The length of your auto trips		1	2	3	4	5	
The number of auto trips to new destinations		2	3	4	5		

4. Please tell us your feelings about various aspects of the test driving experience.	Strongly Disagree	1	2	3	4	5	Strongly Agree
The test driving period gave you enough time to test the <i>ADVANCE</i> system		1	2	3	4	5	
The training provided was sufficient		1	2	3	4	5	
<i>ADVANCE</i> personnel were helpful		1	2	3	4	5	
The user’s manual and visor card provided useful answers to your questions [or, <input type="checkbox"/> didn’t use]		1	2	3	4	5	
Calls to the Traffic Information Center provided useful answers to questions [or, <input type="checkbox"/> didn’t call]		1	2	3	4	5	
Questionnaires were clear and appropriate		1	2	3	4	5	
When you first drove the <i>ADVANCE</i> car, you felt confident using the <i>ADVANCE</i> system		1	2	3	4	5	
When you completed your test driving, you felt confident using the <i>ADVANCE</i> system		1	2	3	4	5	
At the end of the test period. you wanted to continue using the <i>ADVANCE</i> system		1	2	3	4	5	

B. PERFORMANCE OF THE ADVANCE ROUTE GUIDANCE UNIT – PRIMARY DRIVER

5. Mark the lines below to indicate the percent of the trips you drove in the test vehicle during which you used the *ADVANCE* system for:

a. planning routes - entering destinations and following route guidance instructions:



b. map tracking - following the position of your vehicle on the map display:



6. Your overall impression of the *ADVANCE* system is...

Very Unfavorable	Very Favorable
1	2 3 4 5

7. Please rate the performance of the *ADVANCE* features

	Did not Use this	Very Poor .....	.....	.....	.....	Very Good
	0	1	2	3	4	5
Speed of system start-up	0	1	2	3	4	5
Accuracy of start-up position	0	1	2	3	4	5
Display readability	0	1	2	3	4	5
Display understandability	0	1	2	3	4	5
Usefulness of map display	0	1	2	3	4	5
Ease of destination entry	0	1	2	3	4	5
Ease of destination saving	0	1	2	3	4	5
Route planning time	0	1	2	3	4	5
Quality of planned routes	0	1	2	3	4	5
Route preview feature	0	1	2	3	4	5
Route guidance arrows	0	1	2	3	4	5
Route guidance voice instructions	0	1	2	3	4	5
En-route route replanning	0	1	2	3	4	5
Overall route planning performance	0	1	2	3	4	5

7. Please rate the <u>performance</u> of the <i>ADVANCE</i> features	Did not Use this	Very Poor	.....	.....	.....	Very Good
Touch screen controls	0	1	2	3	4	5
Button controls	0	1	2	3	4	5
Accuracy of tracking vehicle route	0	1	2	3	4	5
Accuracy of destination finding	0	1	2	3	4	5
Overall reliability of <i>ADVANCE</i> unit	0	5				

8. How important is each of the following <i>ADVANCE</i> features in your travel?	Not at all Important	.....	.....	.....	Very Important
Speed of system start-up	1	2	3	4	5
Accuracy of start-up position	1	2	3	4	5
Display readability	1	2	3	4	5
Display understandability	1	2	3	4	5
Usefulness of map display	1	2	3	4	5
Ease of destination entry	1	2	3	4	5
Ease of destination saving	1	2	3	4	5
Route planning time	1	2	3	4	5
Quality of planned routes	1	2	3	4	5
Route preview feature	1	2	3	4	5
Route guidance arrows	1	2	3	4	5
Route guidance voice instructions	1	2	3	4	5
En-route route replanning	1	2	3	4	5
Overall route planning performance	1	2	3	4	5
Touch screen controls	1	2	3	4	5
Button controls	1	2	3	4	5
Accuracy of tracking vehicle route	1	2	3	4	5
Accuracy of destination finding	1	2	3	4	5
Overall reliability of <i>ADVANCE</i> unit					

9. Compared with your own route planning, routes planned by the <i>ADVANCE</i> system were	Strongly Disagree.....				Strongly Agree
Direct, almost always heading to your destination	1	2	3	4	5
Fast, providing short travel times	1	2	3	4	5
Short, not requiring you to travel excess distance	1	2	3	4	5
Simple, not requiring complex maneuvers	1	2	3	4	5
Logical, sensible routes anyone would follow	1	2	3	4	5

10. On what percent of the trips for which you used the <i>ADVANCE</i> system did it produce the following effects?	0%	25%	50%	75%	100%
Helped you find your destination	1	2	3	4	5
Saved you travel time	1	2	3	4	5
Helped you avoid congestion	1	2	3	4	5
Distracted you from your driving task	1	2	3	4	5
Caused you to be annoyed or frustrated	1	2	3	4	5
Caused you to shift routes	1	2	3	4	5
Reduced your anxiety	1	2	3	4	5
Increased your anxiety	1	2	3	4	5
Made your trip more pleasant	1	2	3	4	5

C. HOW USING THE ROUTE GUIDANCE SYSTEM INFLUENCE ON YOUR DRIVING

To support the design of future navigation and route guidance systems, we want to understand how the presence and use of the *ADVANCE* system influenced your driving. First, we want to know a bit more about you.

11. Are you predominantly: left-handed right-handed

12. Do you experience difficulty seeing any colors? yes no

13. Do you have trouble seeing the differences between any colors? yes no

If you answered “yes” to question 16, which colors? _____

14. How often did these events occur while you drove the *ADVANCE* car? When they occurred, how serious do you feel the safety risk was?

	HOW OFTEN					SAFETY RISK				
	Never	sometimes	always			Not at all Serious.....			Very Serious	
<i>ADVANCE</i> interfered with response to an emergency (avoiding obstacle, hearing emergency vehicle)	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> too complex to use in heavy traffic	1	2	3	4	5	1	2	3	4	5
Drifted out of lane while using <i>ADVANCE</i> system	1	2	3	4	5	1	2	3	4	5
Stopped vehicle to use <i>ADVANCE</i> feature intended for use in motion	1	2	3	4	5	1	2	3	4	5
Unable to select <i>ADVANCE</i> feature or mode quickly enough to use it	1	2	3	4	5	1	2	3	4	5
Experienced difficulty or stress switching, attention between events outside vehicle and using <i>ADVANCE</i> system	1	2	3	4	5	1	2	3	4	5
Traffic conditions prevented initiating <i>ADVANCE</i> function when needed	1	2	3	4	5	1	2	3	4	5
Pressed wrong control on <i>ADVANCE</i> unit	1	2	3	4	5	1	2	3	4	5
Stopped vehicle to correct <i>ADVANCE</i> control error	1	2	3	4	5	1	2	3	4	5
Arrow display conflicted with voice guidance	1	2	3	4	5	1	2	3	4	5
Could not hear or understand guidance due to traffic or in-vehicle noise	1	2	3	4	5	1	2	3	4	5
Drove more slowly to Follow <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5

14. How often did these events occur while you drove the *ADVANCE* car? When they occurred, how serious do you feel the safety risk was?

	HOW OFTEN					SAFETY RISK				
	Never	sometimes	always			Not at all Serious.....				Very Serious
Navigating with <i>ADVANCE</i> guidance interfered with driving more than would have using paper map	1	2	3	4	5	1	2	3	4	5
Missed turns commanded by <i>ADVANCE</i> guidance due to traffic	1	2	3	4	5	1	2	3	4	5
Missed turns commanded by <i>ADVANCE</i> guidance due to insufficient warning	1	2	3	4	5	1	2	3	4	5
Got lost while following <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5
Felt disoriented following <i>ADVANCE</i> guidance	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> guidance led in the wrong direction at start of trip	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> did not provide route guidance in test area	1	2	3	4	5	1	2	3	4	5
<i>ADVANCE</i> commanded illegal or impossible action	1	2	3	4	5	1	2	3	4	5
Some important geographic features were not shown by the <i>ADVANCE</i> display	1	2	3	4	5	1	2	3	4	5
Could not see street names or geographic features on <i>ADVANCE</i> display	1	2	3	4	5	1	2	3	4	5
Need to monitor traffic conditions interfered with seeing moving map display	1	2	3	4	5	1	2	3	4	5
Needed to lean over to see map display	1	2	3	4	5	1	2	3	4	5
Display of compass directions (north, east, south, west) was confusing	1	2	3	4	5	1	2	3	4	5

14. How often did these events occur while you drove the <i>ADVANCE</i> car? When they occurred, how serious do you feel the safety risk was?	HOW OFTEN					SAFETY RISK				
	Never	sometimes	always			Not at all Serious.....				Very Serious
While driving, could not see streets or other features on map	1	2	3	4	5	1	2	3	4	5
Glare interfered with seeing display	1	2	3	4	5	2	3	4	5	

D. FEATURES OF FUTURE ROUTE GUIDANCE SYSTEMS – PRIMARY DRIVER

In the future it may be possible to acquire in-vehicle route guidance systems based on *ADVANCE*. Please help us plan such future systems by rating the value to you of several possible features.

15. In a future in-vehicle navigation system, how valuable would each of these features be to you?	Not at all Valuable.....					Highly Valuable				
	1	2	3	4	5					
Map display showing current vehicle position	1	2	3	4	5					
Route guidance using only static information (i.e., electronic road map)	1	2	3	4	5					
Route guidance arrow display	1	2	3	4	5					
Route guidance voice messages	1	2	3	4	5					
Route guidance based on current traffic congestion information	1	2	3	4	5					
Map display of location and intensity of current traffic congestion	1	2	3	4	5					
Destination selection by establishment name or type (e.g., electronic Yellow Pages™)	1	2	3	4	5					
Selection of nearest destination of a particular type (e.g., gas station)	1	2	3	4	5					
Push-button emergency help service which automatically reports vehicle location and nature of problem (e.g., accident, breakdown, etc.)	1	2	3	4	5					
National map coverage for intercity and multi-city navigation	1	2	3	4	5					

15. In a future in-vehicle navigation system, how valuable would each of these features be to you?	Not at all Valuable.....				.....	Highly Valuable
Ability to set your own route planning criteria (fastest, cheapest, no expressways, etc.)	1	2	3	4	5	
Ability to plan multi-stop trips (e.g., to store, dentist, restaurant, then home)	1	2	3	4	5	
Integrated car theft alarm which tracks vehicle	1	2	3	4	5	
Display located closer to driver	1	2	3	4	5	

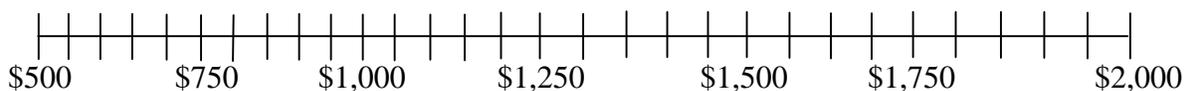
E. PREDICTING THE FUTURE – PRIMARY DRIVER

Please help us predict how drivers like you may respond to future in-vehicle systems, which help them find destinations and avoid congestion.

16. If a route guidance system with the features you found most valuable in Section D were in your car, would you expect it to	Strongly Disagree.....				.....	Strongly Agree
Save you time on most trips?	1	2	3	4	5	
Help you avoid traffic congestion?	1	2	3	4	5	
Help you avoid getting lost?	1	2	3	4	5	
Help you find new destinations?	1	2	3	4	5	
Reduce your anxiety while driving?	1	2	3	4	5	
Not distract you from your driving task?	1	2	3	4	5	

Finally, we would like your help in estimating the value to drivers like you of future in-vehicle navigation and route guidance systems with different features.

17. It has been estimated that it would cost between \$500 and \$2,000 for a basic in-vehicle navigation system which is highly reliable, easy to use, and which provides route planning based on historic travel conditions, a map display, and displayed and verbal route directions. Using the range of \$500-2,000 as a guideline, indicate on the number line below the maximum amount you would be willing to pay for this basic system installed in the next new vehicle you purchase or lease.



18. Next, please indicate how likely you would be to add the additional features described below at the costs indicated for these features.

	Very Unlikely.....				Very Likely
Current traffic congestion and travel time information: Route planning based on current traffic conditions along with rerouting instructions to help you avoid unexpected congestion; there would be a \$20 monthly subscription fee for access to the current traffic information	1	2	3	4	5
Current traffic congestion and travel time information: Route planning as described above but with a monthly fee of \$10	1	2	3	4	5
Theft protection: Vehicle theft alarm and tracking if the vehicle is stolen; cost of \$10 per month	1	2	3	4	5
Emergency road service: Push-button emergency road service which automatically reports location of your vehicle and nature of your need; monthly subscription fee of \$10	1	2	3	4	5
Combined package: Current traffic congestion and travel time information, theft protection and emergency road service; \$30 per month fee.	1	2	3	4	5

19. How likely would these factors be to discourage you from buying a future route guidance system with the features you value most?

	Very unlikely to discourage				Very likely to discourag
Required maintenance cost of \$50 per year	1	2	3	4	5
Complexity of use like that of the <i>ADVANCE</i> system	1	2	3	4	5
Reliability like that of the <i>ADVANCE</i> system	1	2	3	4	5
Appearance of unit installed in your vehicle like that of the <i>ADVANCE</i> system	1	2	3	4	5
Potential problems due to additional electrical load	1	2	3	4	5
Potential increased risk of vehicle theft and vandalism	1	2	3	4	5
Driver distraction while using route guidance system	1	2	3	4	5

Please complete this survey within 3 days of your return of the *ADVANCE* vehicle. Return the completed survey to us in the supplied prepaid mailing envelope.